Two New Species of *Ormocarpopsis* R. Viguier and a New Combination in *Ormocarpum* P. Beauvois (Leguminosae-Papilionoideae) from Madagascar

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ABSTRACT. Morphological characters support the description of two new species of *Ormocarpopsis* from Madagascar: *O. itremoensis* Du Puy & Labat from the Itremo Massif (Central Region) and *O. tulearensis* Du Puy & Labat from the dry region around Tulear (Toliara) in the southwest of the island. A new combination is made for *Ormocarpum bernierianum* (Baillon) Du Puy & Labat.

RÉSUMÉ. L'étude des caractères morphologiques permet la description de deux nouvelles espèces d'*Ormocarpopsis* de Madagascar: *O. itremoensis* Du Puy & Labat du Massif de l'Itremo (Région Centrale) et *O. tulearensis* Du Puy & Labat de la région sèche autour de Tulear (Toliara), dans le sud-ouest de l'île. Une nouvelle combinaison est faite pour *Ormocarpum bernierianum* (Baillon) Du Puy & Labat.

Prior to completion of an account of the subfamily Papilionoideae in Madagascar, two new species of *Ormocarpopsis* R. Viguier are described and illustrated. *Ormocarpopsis* is a genus endemic to Madagascar, in the tribe Aeschynomeneae (Bentham) Hutchinson, subtribe Ormocarpinae Rudd (Rudd, 1981). It contains six species occurring throughout the island except for the lowland eastern rainforest. *Ormocarpopsis* differs from the paleotropical genus *Ormocarpum* P. Beauvois in its pods, which are not segmented (although often containing more than 1 seed), are very swollen, and lack obvious longitudinal striations. The racemes are always short or even reduced to a single flower, but otherwise of a similar structure to those of *Ormocarpum*. A brownish to blackish midvein or blotch on the undersurface of the leaflets appears in dried specimens of most species of *Ormocarpopsis*, but not in *Ormocarpum*. *Ormocarpum* is also present in Madagascar, with two species, *Ormocarpum drakei* R. Viguier and a species described by Baillon as *Diphaca bernieriana*. The genus name *Diphaca* Loureiro (Fl. Cochinch.: 457, 1790) is a rejected name, and the new combination *Ormocarpum bernierianum* is required.

Ormocarpopsis itremoensis Du Puy & Labat, sp. nov. TYPE: Central Madagascar. Province de Fianarantsoa: 7 km au sud d'Ambatofinandrahana, Mahavanyno, lieux-dit Analalehibe, 20°37′43″S, 46°50′32″E, 1350 m, 19 Nov. 1993 (fr), *J.-N. Labat, D. J. Du Puy & J. Andriantiana 2363* (holotype, P; isotypes, K, MO, P, TAN, TEF, WAG). Figure 1.

Species habitu brachyblastis numerosis robustis; floribus subsessilibus; bracteis et bracteolis grandibus stipulas brachyblastorum simulantibus; in siccitate pagina inferiori foliolorum sine macula distinguibili fusca sed principale nervi brunescente; et leguminibus (1–)2–4-spermis distincta.

A shrub ca. 3 m tall, flowering on leafless twigs or on twigs with a few persistent leaves; flowers and leaves produced from numerous robust brachyblasts (contracted lateral shoots with many closely spaced leaf scars and stipules). Leaves with 5–13 leaflets; rachis grooved above, pubescent, not becoming dark on drying. Leaflets oblong-elliptic, ca. 9–11 × 5 mm, mucronulate, glabrous above, pubescent beneath, gray-green especially beneath, thinly coriaceous, the central vein visible beneath, becoming discolored (dark brown) on drying; pulvinules drying blackish. Flowers clustered near the ends of the brachyblasts, solitary, short-pedicellate, appearing sessile as the pedicel is hidden by the stipules and bracts on the brachyblasts when in flower (but becoming elongated and 10–17 mm long in fruit), ca. 10 mm long, yellow; pedicels pubescent; bracts, bracteoles, and stipules all similar, narrowly triangular, 4–5 mm long; bracteoles situated just below the calyx. Calyx ca. 5 mm long,

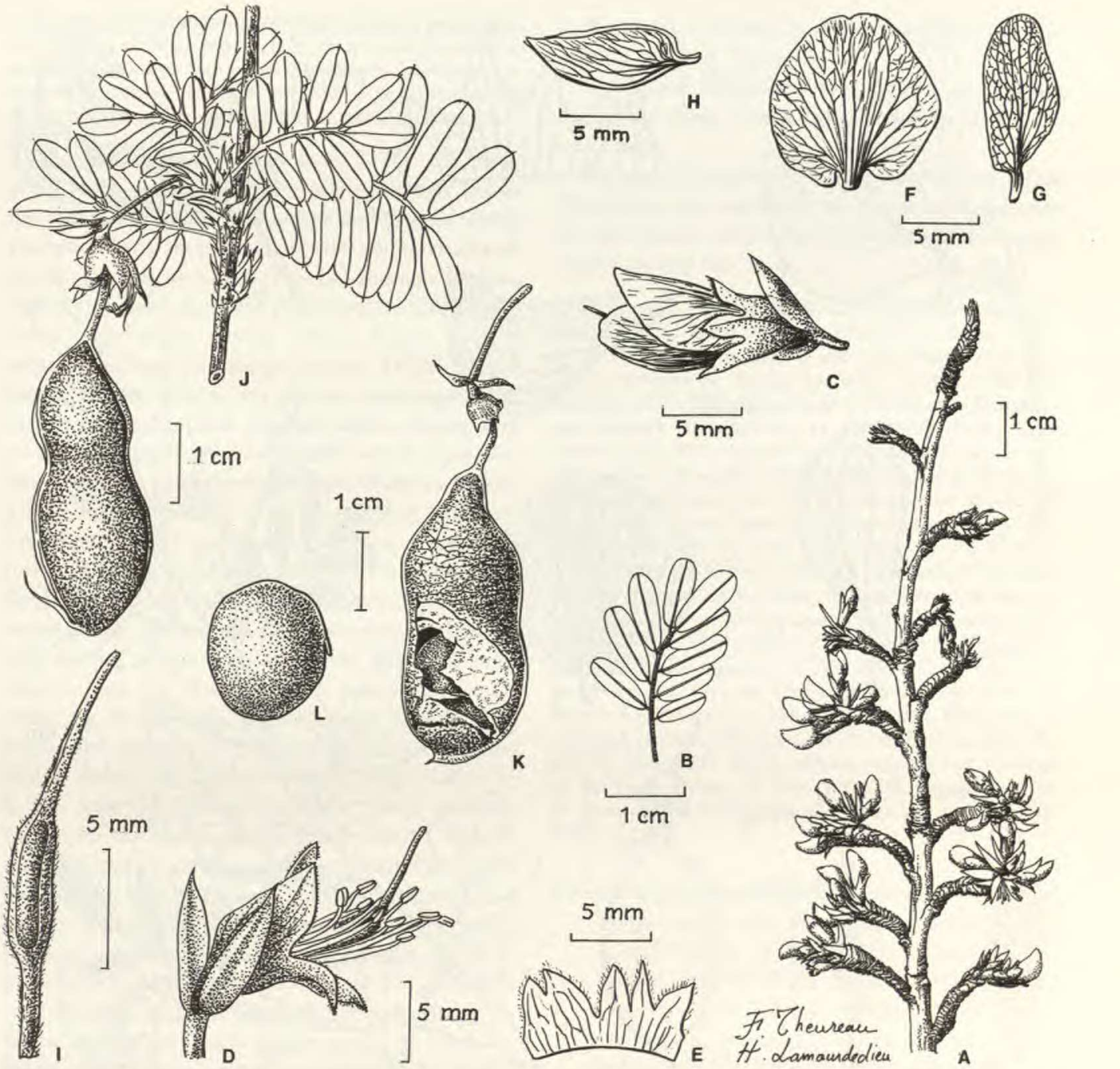

Figure 1. *Ormocarpopsis itremoensis* Du Puy & Labat. —A. Flowering habit. —B. Leaf of flowering shoot. —C. Flower. —D. Flower without corolla. —E. Calyx. —F. Standard petal. —G. Wing. —H. Keel. —I. Ovary. —J. Fruiting habit. —K. Pod. —L. Seed. (A–I from *J. Bosser 9773*; J–L from *J.-N. Labat, D. J. Du Puy & J. Andriantiana 2363*.)

glabrous, ciliate on the margins; teeth subacute, the lower tooth about as long as the others. Keel about as long as the wings. Ovary long-stipitate, glandular-pubescent on the stipe and margins. Pod long-stipitate, the stipe 8–10 mm long, more than twice as long as the calyx, oblong-ellipsoid, 20–50 × 15–17 mm, not glandular, straw-colored and with distinct reticulate venation, thin-textured (not coriaceous), indehiscent but eventually disintegrating by fragmentation of the valves, with (1–)2–4 seeds; endocarp white. Seeds large, ellipsoid, 12–20 × 13–16 × 10–11 mm, pale brown.

Ormocarpopsis itremoensis is an unusual species distinguished by its growth habit with many robust brachyblasts, its subsessile flowers, its large bracts and bracteoles resembling the stipules on the brachyblasts, the midvein of the leaflets drying dark brown beneath (but lacking a distinct brown blotch on the leaflet undersurface), and its (1–)2–4-seeded pods. The growth pattern is unusual in that it is almost completely restricted to the slow extension of the brachyblasts, which sporadically produce more extended shoots which then immediately revert to producing the contracted brachyblasts. The leaves and flowers are only produced at the brachyblast tips.

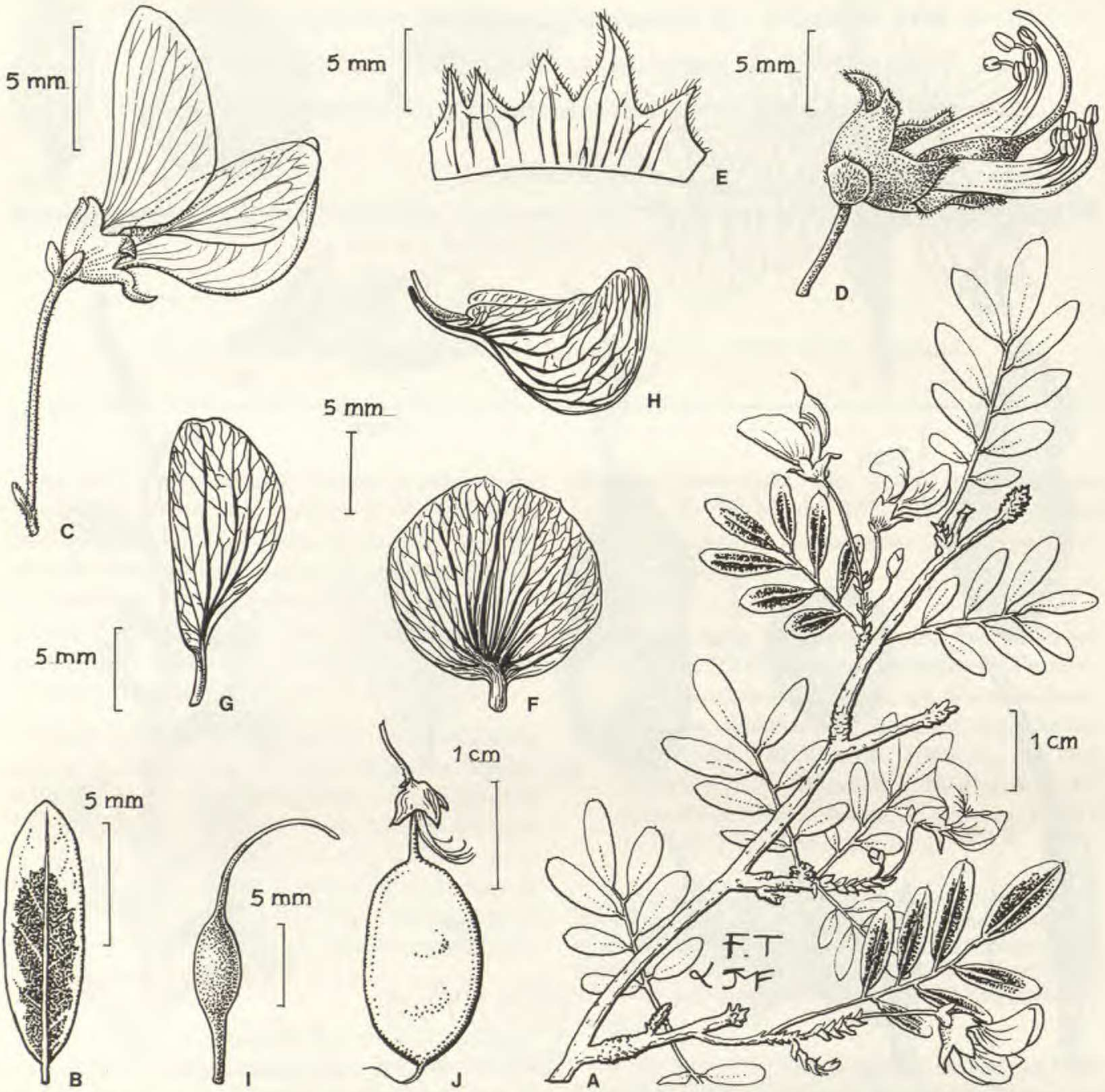

Figure 2. *Ormocarpopsis tulearensis* Du Puy & Labat. —A. Habit. —B. Leaflet. —C. Flower. —D. Flower without corolla. —E. Calyx. —F. Standard petal. —G. Wing. —H. Keel. —I. Ovary . —J. Young pod. (A–C, J from *D. J. & B. P. Du Puy & J.-N. Labat M423*; D–I from *Keraudren 1369*.)

M. Peltier recognized this species as distinct, noting the name *Ormocarpopsis* "*itremensis*" on the *Bosser 9773* specimen.

This species is only known from the type specimen, in fruit, and a flowering specimen collected in the mountains of the Itremo Massif, Central Madagascar. It occurs in woody vegetation, sometimes very open, in thin soil above marble rocks at 1300–1400 m altitude. It is recorded as flowering during September. This species is known by the vernacular name "Hazomahery," in reference to its hard wood, used in the construction of houses and carts. The branches are also used to make tool handles.

The specific epithet refers to the Itremo Massif region of western central Madagascar, where the known collections originated.

Paratype (flowering material). WEST-CENTRAL MADAGASCAR. Ambatofinandrahana, Poste Kilométrique 12, route de Fenoarivo, Sep. 1956 (fl), *Bosser 9773* (K, P, TAN).

Ormocarpopsis tulearensis Du Puy & Labat, sp. nov. TYPE: Southwestern Madagascar. Ca. 35 km N of Tulear (Toliara), 11 km N of Ifaty, near the coast, 23°04′S, 43°37′E, 10 m, 31 Jan. 1990 (fl, jfr), *D. J. & B. P. Du Puy & J.-N. Labat M423* (holotype, K; isotypes, K, MO, P, PRE, TAN, WAG). Figure 2.

Species foliolis angustis, oblongis margine perangusta, scoriasa, in siccitate pagina inferiori macula distinguibili grandi fusca saepe fere totam superficiem inferiorem obtegenti instructis; bracteolis calycem arcte approximantibus; et ovario et legumine glabro et maculato distincta.

A shrub or small, bushy tree, 2–7 m tall, flowering when young leaves are present (rarely before the leaves are produced); leaves and flowers mostly produced from short brachyblasts; young shoots often sticky. Leaves with 5–11(–14) alternate leaflets; rachis flattened, sparsely pubescent to almost glabrous, sometimes drying black. Upper leaflets narrowly oblong to oblong-obovate, 14–28 × 3–5 mm, glabrous, with a very narrow, scarious margin, bluish green, minutely punctate above, drying with a large dark brown blotch beneath, which often covers almost the entire undersurface. Flowers 1–3 on a very short peduncle up to 10 mm long, with several bracts below the flowers, 10–16 mm long, yellow and drying with distinct darker veins, the standard petal lemon yellow with a greenish base, the wings lemon yellow, the keel pale green, about as long as the wings, with a distinct beak; pedicels shorter than the flowers, finely pubescent; bracts ovate, ca. 2 mm long; pedicel up to 12 mm long; bracteoles elliptic, 2–3 mm long, situated immediately below and appressed to the calyx. Calyx 4–6 mm long (excluding the lower tooth), glabrous except for the ciliate margin; teeth obtuse, spreading, the lower tooth longer than the others. Ovary flat, subcircular to oblong, glabrous, mottled. Pod shortly stipitate, the stipe about as long as or slightly longer than the calyx, oblong-ellipsoid, ca. 22 × 12 mm, not glandular, straw-colored and distinctly reticulate-veined, thin textured (not coriaceous), indehiscent but eventually disintegrating by fragmentation of the valves, young and immature pods with 1–4 very immature seeds but the only two partially mature pods known are 1-seeded; endocarp white. Seeds ellipsoid, ca. 11 × 9 × 6 mm, brown.

Ormocarpopsis tulearensis can be recognized by its narrow, oblong leaflets with a very narrow, scarious margin and which dry with a distinctive large, brown blotch beneath that often almost entirely covers the leaflet's undersurface; its bracteoles situated just at the calyx base; and its glabrous, mottled ovary and immature pod.

This is the only species of the genus that occurs in southwestern Madagascar, being confined to a small region around Tulear (Toliara), extending north toward Manombo, east to Andranovory and Tongobory, and south to the Itambono Corridor. It occurs in xerophytic scrubland, on limestone or sand over limestone, from sea level to ca. 300 m altitude. It is recorded as flowering from November to March. It is known in the region under the vernacular name of "Sofasofa."

M. Peltier recognized this species as distinct, noting the name *Ormocarpopsis tulearensis* on the specimens.

The specific epithet refers to the town of Tulear (Toliara) in the southwest of Madagascar, because all the known collections originated from a small region around this town.

Paratypes. SOUTH MADAGASCAR. Balalana, embouchure du Fiherenana, Nov. 1956 (fl, fr), *Bosser 10611* (P, TAN); 30 km de Tulear, 1962 (fl), *Bosser 15666* (P, TAN); environs de Tulear, La Table, 14 Fév. 1961 (fl), *Chauvet 30* (P, TEF); along route n° 10 between Tongobory and Betioky, 100–300 m, 14 Fév. 1975 (bud), *Croat 31205* (TAN, MO); environs de Tulear à 40 km sur la route Tulear-Tananarive, Fév. 1962 (fl), *Keraudren 1369* (K, P); environs de Tulear, s.d. (fl, jfr), *Montagnac 49* (K, P); Province de Tulear, Itambono Corridor between Betioky and Beheloka, 18 km from Route Nationale 10, 23°52′S, 44°12′E, 250m, 30 Dec. 1987 (fl), *Phillipson 2745* (MO, P); aux environs de La Table, Tulear, Mar. 1953 (fl, jfr), *Service Forestier de Madagascar 6933-SF (Capuron)* (BR, K, MO, NY, P, TEF); Tulear, 27 Jan. 1955 (fl, jfr), *Service Forestier de Madagascar 12702-SF* (P, TEF); route Tulear–Sakaraha, vers les Postes Kilométriques 55–65, à l'ouest d'Andranovory, Déc. 1961 & Jan. 1962 (fl, jfr), *Service Forestier de Madagascar 20715-SF (Capuron)* (K, MO, P, PRE, TEF, WAG); plateau calcaire aux environs de La Table, Tulear, 12 Déc. 1962 (fl), *Service Forestier de Madagascar 22262-SF (Capuron)* (K, MO, P, TEF, WAG).

Ormocarpum bernierianum (Baillon) Du Puy & Labat, comb. nov. Basionym: *Diphaca bernieriana* Baillon, Bull. Soc. Linn. Paris 1: 416 (1884). SYNTYPES: Northern Madagascar. "Diego-Suarês" [Antsiranana], *Bernier (2ème envoie) 252* (lectotype, selected here, P; isolectotypes, P, K); *Boivin 2718* (not seen).

Ormocarpum bernierianum is closely related to *O. schliebenii* Harms, an uncommon species from Tanzania and Mozambique, differing most strikingly in its unusual white rather than yellow flowers. *Ormocarpum bernierianum* also becomes a larger shrub, and it has more numerous flowers in its longer racemes, smaller bracteoles, and more rounded calyx teeth. *Diphaca bernierianum* is the earlier name, and *O. bernierianum* would have priority over *O. schliebenii* if these two taxa were considered to be conspecific. The name *Ormocarpum hildebrandtianum* Baillon is present on a herbarium sheet in Paris but has not been published.

This species is only known from northern Madagascar and is confined to the extreme north including the Ankarana Plateau, the Analamerana Massif, Montagne des Français, Diego Suarez (Antsiranana), and Cap d'Ambre. It occurs in decidu-

ous woodland and open vegetation over limestone, from near sea level to ca. 350 m altitude, often along watercourses.

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